

Notice of Allowability

Application No.

10/749,493

Examiner

Chun-Kuan (Mike) Lee

Applicant(s)

SETO, PAK-LUNG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/26/2007.
2. ☒ The allowed claim(s) is/are 1,3-10,12-16,18-21 and 23-29.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


ALFORD KINDRED
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

CONTINUED EXAMINATION UNDER 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/26/2007 has been entered.

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in 37 C.F.R. 1.63.

II. INFORMATION CONCERNING DRAWINGS

Drawings

3. The applicant's drawings submitted are acceptable for examination purposes.

III. TERMINAL DISCLAIMER

Terminal Disclaimer

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4. The terminal disclaimer filed on 10/26/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the US patent 7,093,033 has been reviewed and is accepted. The terminal disclaimer has been recorded.

IV. EXAMINER'S AMENDMENTS

OPTIONS AVAILABLE TO THE APPLICANT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by **37 CFR § 1.312**. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

AUTHORIZATION FOR THE CORRECTIONS BY THE EXAMINER

6. Authorization for this examiner's amendment was given in a telephone interview with Caroline Fleming, having Reg. No. 45,566, on November 20, 2007. Accordingly, since a complete record of the interview has been incorporated in the instant examiner's amendment, no separate interview summary form is included in the instant office letter **MPEP § 713.04**.

CORRECTIONS MADE IN THE APPLICATION

7. The application has been amended as following:

IN THE CLAIMS:

The below described amendments to the claims are necessary to further clarify the claimed invention.

In claim 1, line 3, "... storage device, and capable of communicating ..." should be replace with "... storage device, and communicating ...-;

in claim 1, lines 8-9, "... the intermediate device is capable of communicating ..." should be replace with "... the intermediate device is communicating ...-;

in claim 9, line 2-4, "... storage protocol controller capable of communicating ... storage protocol controller being capable of being coupled with a bus ..." should be replace with "... the intermediate device communicating ... storage protocol controller being coupled with a bus ...-;

in claim 9, line 7, "... each storage device is capable of communicating ..." should be replace with "... each storage device is communicating ...-;

in claim 9, line 11, "... storage enclosure, and capable of communicating ..." should be replace with "... storage enclosure, and communicating ...-;

in claim 9, line 17, "... intermediate device is capable of communicating ..." should be replace with "... intermediate device is communicating ...-;

in claim 15, line 2, "... determining, at least in part, by an intermediate device ..." should be replace with "... determining by an intermediate device ...-;

in claim 15, lines 5-7, "... the intermediate device is capable of communicating; and controlling, at least in part by the intermediate device ..." should be replace with "...

the intermediate device is communicating; and controlling, by the intermediate device ...-;

in claim 20, line 4, "... determining, at least in part, by an intermediate device ..." should be replace with -... determining by an intermediate device ...-;

in claim 20, lines 7-8, "... the intermediate device is capable of communicating ..." should be replace with -... the intermediate device is communicating ...-; and

in claim 20, line 9, "... controlling, at least in part by the intermediate device ..." should be replace with -... controlling, by the intermediate device ...-.

V. DISTINGUISHING FEATURES RECITED IN THE CLAIMS

ALLOWABLE SUBJECT MATTER

8. Claims 1, 3-10, 12-16, 18-21 and 23-29 are allowed.

The following is an **Examiner's Statement of Reasons for Allowance**, See MPEP 1302.14:

The primary reasons for allowance of claim 1 in the instant application is the combination with the inclusion in the claim that there are "**... an intermediate device to be coupled between a storage protocol controller and at least one storage device, and communicating in accordance with a plurality of storage protocols, and including, protocol sensing circuitry to determine based on an initialization signal sequence indicative of a storage protocol received from the at least one storage**

device which one of the plurality of storage protocols via which the at least one storage device to be coupled to the intermediate device is communicating, and flow control circuitry to control a data stream between the at least one storage device and the storage protocol controller, wherein the data stream includes the storage protocol determined by the protocol sensing circuitry ..." The prior art of

record including the disclosures of Wood et al. (US Patent 6,915,363), Brewer et al. (US Patent 6,886,057) and Kahn et al. (US Patent 6,636,909) neither anticipates nor renders obvious the above recited combination. Because claims 3-8, 25 and 29 depend directly on claim 1, these claims are considered allowable for at least the same reasons noted above.

The primary reasons for allowance of claim 9 in the instant application is the combination with the inclusion in the claim that there are "... at least one storage protocol controller communicating in accordance with a plurality of storage protocols, the a at least one storage protocol controller being coupled with a bus; a storage enclosure including a plurality of storage devices, wherein two or more of the storage devices are combined in a Redundant Array of Inexpensive Disk (RAID) configuration, and each storage device is communicating in accordance with one of Serial Attached SCSI (SAS), Serial Advanced Technology Attachment (SATA) and Fibre Channel (FC) storage protocol; an intermediate device coupled between the storage protocol controller and the storage enclosure, and communicating in accordance with a plurality of storage protocols, and including,

protocol sensing circuitry to determine based on an initialization signal sequence indicative of a storage protocol received from the at least one of the storage devices in the storage enclosure which one of the plurality of storage protocols via which the at least one storage device to be coupled to the intermediate device is communicating, and flow control circuitry to control a data stream between the at least one storage device and the storage protocol controller, wherein the data stream includes the storage protocol determined by the protocol sensing circuitry ..." The prior art of record including the disclosures of Wood et al. (US Patent 6,915,363), Brewer et al. (US Patent 6,886,057) and Kahn et al. (US Patent 6,636,909) neither anticipates nor renders obvious the above recited combination. Because claims 10, 12-14 and 26 depend directly on claim 9, these claims are considered allowable for at least the same reasons noted above.

The primary reasons for allowance of claim 15 in the instant application is the combination with the inclusion in the claim that there are "... determining by an intermediate device supporting a plurality of storage protocols, based on an initialization signal sequence indicative of a storage protocol received from at least one storage device which one of the plurality of storage protocols via which said at least one storage device coupled with the intermediate device is communicating; and controlling, by the intermediate device, at least one data stream being communicated in accordance with the one storage protocol from said at least one storage device to a storage protocol controller ..." The prior art of

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record including the disclosures of Wood et al. (US Patent 6,915,363), Brewer et al. (US Patent 6,886,057) and Kahn et al. (US Patent 6,636,909) neither anticipates nor renders obvious the above recited combination. Because claims 16, 18-19 and 27 depend directly on claim 15, these claims are considered allowable for at least the same reasons noted above.

The primary reasons for allowance of claim 20 in the instant application is the combination with the inclusion in the claim that there are "... a storage medium having stored thereon instructions that when executed by a machine result in the following operations: determining by an intermediate device supporting a plurality of storage protocols based on an initialization signal sequence indicative of a storage protocol received from a storage device, which one of the plurality of storage protocols via which the at least one storage device coupled with the intermediate device is communicating; and controlling, by the intermediate device, at least one data stream being communicated in accordance with the one storage protocol from said at least one storage device to a storage protocol controller ..." The prior art of record including the disclosures of Wood et al. (US Patent 6,915,363), Brewer et al. (US Patent 6,886,057) and Kahn et al. (US Patent 6,636,909) neither anticipates nor renders obvious the above recited combination. Because claims 21, 23-24 and 28 depend directly on claim 20, these claims are considered allowable for at least the same reasons noted above.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

VI. CLOSING COMMENTS

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

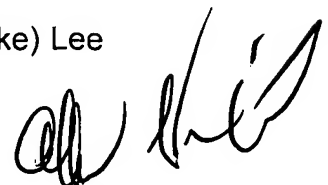
IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 27, 2007

Chun-Kuan (Mike) Lee
Examiner
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ALFORD KINDRED
SUPERVISORY PATENT EXAMINER